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EXAMINER	
NG, CHRISTINE Y	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/668,653	KARAOGUZ, JEYHAN	
	Examiner	Art Unit	
	CHRISTINE NG	2416	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 October 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-52 and 55-63* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-52 and 55-63* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 2, 4-8, 10, 14, 16, 18-21, 23, 27, 29, 30, 33, 35, 36, 38-42, 44, 48, 50, 52, 55, 58 and 62 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,771,660 to Bourlas et al.

Referring to claims 1 and 16, Bourlas et al disclose a device (Figure 1, base station 106) that operates within a piconet (Figure 1), the device comprising:

A PHY (Figure 5, physical layer 508) that includes link quality intelligence 6771660.pn.

gathering functionality. Refer to Column 6, lines 26-33 and Column 10, lines 39-45.

A MAC (Figure 5, MAC layers 502,504) that is communicatively coupled to the PHY. Refer to Column 6, lines 26-33 and Column 10, lines 39-45.

Wherein the link quality intelligence gathering functionality is operable to assess a plurality of operational parameters (information regarding data transmission qualities)

that corresponds to a PHY link that communicatively couples the PHY of the device to a PHY of at least one additional device (Figure 1, CPE's 110; Column 6, lines 26-33).

The PHY of the device is operable to provide assessed information corresponding to the plurality of operational parameters to the MAC.

The MAC processes the assessed information corresponding to the plurality of operational parameters.

Based on the processed assessed information, the MAC modifies at least one operational parameter (modulation) of the plurality of operational parameters. "The BS MAC preferably uses information from the PHY regarding signal quality to determine to modulation required for a particular CPE…" (Column 14, lines 48-50).

Referring to claim 2, Bourlas et al disclose in Figure 1 wherein the device maintains peer to peer communication with the at least one additional device (CPE 110). Refer to Column 6, lines 26-33.

Referring to claim 4, Bourlas et al disclose wherein the MAC directs the link quality intelligence gathering functionality of the PHY to assess the plurality of operational parameters. "The BS MAC preferably uses information from the PHY regarding signal quality to determine to modulation required for a particular CPE…" (Column 14, lines 48-50).

Referring to claims 5 and 18, Bourlas et al disclose wherein:

The MAC directs the link quality intelligence gathering functionality of the PHY to assess a first plurality of operational parameters (information regarding signal quality)

that is a subset of the plurality of operational parameters (information regarding data transmission qualities). Refer to Column 14, lines 40-54.

The PHY of the device provides assessed information corresponding to the first plurality of operational parameters to the MAC. The BS PHY sends information regarding signal quality to the BS MAC. Refer to Column 14, lines 48-50.

The MAC processes the assessed information corresponding to the first plurality of operational parameters to the MAC. Refer to Column 14, lines 48-50.

Based on the processed assessed information corresponding to the first plurality of operational parameters to the MAC, the MAC directs the link quality intelligence gathering functionality of the PHY to assess a second plurality of operational parameters (modulation; data in one frame can be modulated using different techniques such as QAM-4 and QAM-16; Column 8, lines 13-47) that is a subset of the plurality of operational parameters. Depending on the signal quality, the BS MAC determines a new modulation scheme. Refer to Column 14, lines 48-50. The BS PHY can send information to the BS MAC about the modulation scheme using the PHY control portion 312 of a frame header 302. Refer to Column 8, lines 42-45.

Referring to claims 6 and 19, Bourlas et al do not specifically disclose wherein the first plurality of operational parameters and the second plurality of operational parameters include at least one common operational parameter. However, since the signal quality affects the modulation scheme used, the first plurality of operational parameters and the second plurality of operational parameters can include a same parameter. For example, a certain modulation scheme is required to achieve an

acceptable bit rate error. Therefore, the PHY and the MAC layers can exchange bit rate error information. Refer to Column 14, lines 40-54.

Referring to claims 7 and 20, Bourlas et al disclose:

During a first time, the MAC directs the link quality intelligence gathering functionality of the PHY to assess a first plurality of operational parameters (information regarding signal quality) that is a subset of the plurality of operational parameters (information regarding data transmission qualities). Refer to Column 14, lines 40-54.

During a second time, the MAC directs the link quality intelligence gathering functionality of the PHY to assess a second plurality of operational parameters (modulation; data in one frame can be modulated using different techniques such as QAM-4 and QAM-16; Column 8, lines 13-47) that is a subset of the plurality of operational parameters. The BS PHY can send information to the BS MAC about the modulation scheme using the PHY control portion 312 of a frame header 302. Refer to Column 8, lines 42-45.

Referring to claims 8 and 21, refer to the rejection of claims 6 and 19.

Referring to claims 10 and 23, Bourlas et al disclose wherein:

A first operational parameter of the plurality of operational parameters that corresponds to the PHY link corresponds to a first modulation used to modulate a signal transmitted across the PHY link.

A second operational parameter of the plurality of operational parameters that corresponds to the PHY link corresponds to an interference (signal quality) of the signal transmitted across the PHY link.

The MAC processes the assessed information corresponding to the second operational parameter thereby monitoring the interference of the signal transmitted across the PHY link.

Based on a change in the interference of the signal transmitted across the PHY link, the MAC changes the first operational parameter from the first modulation to a second modulation.

The second modulation is subsequently used to modulate the signal transmitted across the PHY link. "The BS MAC preferably uses information from the PHY regarding signal quality to determine to modulation required for a particular CPE…" (Column 14, lines 48-50).

Referring to claims 14 and 27, Bourlas et al disclose wherein an operational parameter of the plurality of operational parameters corresponds to at least one of:

A distance between the device and the at least one additional device (none).

A location of the device (none).

A location of the at least one additional device (none).

Interference of a signal transmitted across the PHY link (none).

A data rate employed for a signal transmitted across the PHY link (none).

A QoS of the PHY link (signal quality; Column 14, lines 48-50).

A SNR of a signal transmitted across the PHY link (none).

A PN code assigned to spread UWB pulses of a signal transmitted across the PHY link (none).

A power level of a signal transmitted across the PHY link (none).

A code rate of a signal transmitted across the PHY link (none).

A modulation that modulates a signal transmitted across the PHY link (Column 14, lines 48-50).

A TFC that modulates OFDM symbols of a signal transmitted across the PHY link (none).

Referring to claim 29, refer to the rejection of claims 1 and 16; and claims 7 and 20. Furthermore, Bourlas et al disclose:

The MAC processes at least one of assessed information corresponding to the first plurality of operational parameters (none) and assessed information corresponding to the second plurality of operational parameters (modulation).

Based on the processed assessed information, the MAC modifies at least one operational parameters of at least one of the first plurality of operational parameters (none) and the second plurality operational parameters (modulation). "The BS MAC preferably uses information from the PHY regarding signal quality to determine to modulation required for a particular CPE…" (Column 14, lines 48-50).

Referring to claim 30, refer to the rejection of claims 6 and 19.

Referring to claim 33, refer to the rejection of claims 14 and 27.

Referring to claim 35, Bourlas et al disclose a method for providing link quality intelligence from a PHY (Figure 5, physical layer 508) to at least one higher protocol layer (Figure 5, MAC layers 502,504) of a device (Figure 1, base station 106) that operates within a piconet. Refer to Column 6, lines 26-33 and Column 10, lines 39-45. The method comprises:

Assessing a plurality of operational parameters (information regarding data transmission qualities) that corresponds to a PHY link that communicatively couples the PHY of the device to a PHY of at least one additional device (Figure 1, CPE's 110; Column 6, lines 26-33).

Providing assessed information corresponding to the plurality of operational parameters to a MAC (Figure 5, MAC layers 502,504) of the device. Refer to Column 10, lines 39-45.

Employing the MAC to assess information corresponding to the plurality of operational parameters.

Based on the processed assessed information, employing the MAC to modify at least one operational parameter (modulation) of the plurality of operational parameters. "The BS MAC preferably uses information from the PHY regarding signal quality to determine to modulation required for a particular CPE…" (Column 14, lines 48-50).

Wherein the MAC is communicatively coupled to the PHY. Refer to Column 10, lines 39-45.

Referring to claim 36, refer to the rejection of claim 2.

Referring to claim 38, refer to the rejection of claim 4.

Referring to claim 39, refer to the rejection of claims 5 and 18.

Referring to claim 40, refer to the rejection of claims 6 and 19.

Referring to claim 41, refer to the rejection of claims 7 and 20.

Referring to claim 42, refer to the rejection of claims 6 and 19.

Referring to claim 44, refer to the rejection of claims 10 and 23.

Referring to claim 48, refer to the rejection of claims 14 and 27.

Referring to claim 50, refer to the rejection of claims 1 and 16, claims 7 and 20 and claims 8 and 21.

Referring to claim 52, refer to the rejection of claim 4.

Referring to claim 55, refer to the rejection of claim 2.

Referring to claim 58, refer to the rejection of claims 10 and 23.

Referring to claim 62, refer to the rejection of claims 14 and 27.

3. Claims 3, 17, 31, 37 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,771,660 to Bourlas et al in view of U.S. Patent No. 6,999,432 to Zhang et al.

Bourlas et al do not disclose wherein the device also includes a higher application layer, communicatively coupled to the MAC, that supports a first service; the MAC provides the processed assessed information to the higher application layer; and based on the processed assessed information provided to the higher application layer, the higher application layer terminates the first service to maintain communication between the device and the at least one additional device via the PHY link.

Zhang et al disclose that the PHY and MAC layers are connected to a higher application layer. Performance measurement information such as throughput and BER are also reported to the application layer. Using this information, the application payer can perform resource allocation for multimedia transmission. Resource allocation can include terminating certain services by not allocating resources to them to support other services. Refer to Column 7, lines 49-57; Column 8, lines 27-35; Column 9, line 38 to

Column 10, line 2; and Column 15, line 63 to Column 16, line 2. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include wherein the device also includes a higher application layer, communicatively coupled to the MAC, that supports a first service; the MAC provides the processed assessed information to the higher application layer; and based on the processed assessed information provided to the higher application layer, the higher application layer terminates the first service to maintain communication between the device and the at least one additional device via the PHY link. One would have been motivated to do so to support certain services based on channel qualities.

4. Claims 9, 15, 22, 28, 34, 43, 49, 56, 57 and 63 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,771,660 to Bourlas et al in view of U.S. Publication No. 2003/0054767 to Mandhyan et al.

Referring to claims 9, 22, 43 and 57, Bourlas et al disclose in Figure 1 wherein:

The at least one additional device is a *base station* (base station 106). The disclosed method can be executed by software in both the base stations and the CPE. Refer to Column 6, lines 26-33.

The PHY of the at least one additional device is a PHY of the *base station*. Refer to Column 10, lines 39-45.

The device is a *CPE* (CPE 110). The disclosed method can be executed by software in both the base stations and the CPE. Refer to Column 6, lines 26-33.

The PHY of the *base station* includes link quality intelligence gathering functionality. Refer to Column 14, lines 40-54.

The *base station* includes a MAC that is communicatively coupled to the PHY of the *base station*. Refer to Column 6, lines 26-33.

The MAC of the *base station* includes *CPE* direction functionality (to change the modulation used in the CPE). Refer to Column 14, lines 48-50.

The link quality intelligence gathering functionality of the PHY of the *base station* assesses at least one additional plurality of operational parameters (information regarding signal quality) that corresponds to the PHY link that communicatively couples the PHY of the *CPE* to the PHY of the *base station*.

The PHY of the *base station* provides at least one additional assessed information corresponding to the at least one additional plurality of operational parameters to the MAC of the *base station*.

The MAC of the *base station* processes the at least one additional assessed information corresponding to the at least one additional plurality of operational parameters. The BS MAC receives information from the PHY regarding signal quality. Refer to Column 14, lines 48-50.

The *CPE* transmits information corresponding to the PHY link from the *CPE* to the *base station*. The CPE requests bandwidth from the base station for different services, with each service requiring different priorities, service types and QoS. Refer to Column 6, lines 26-33.

Based on the processed at least one additional assessed information and based on the information corresponding to the PHY link that is transmitted from the *CPE* to the *base station*, the *CPE* direction functionality of the *base station's* MAC directs the *CPE*

to change at least operational parameter (modulation) of the plurality of operational parameters that corresponds to the PHY link that communicatively couples the PHY of the *CPE* to the PHY of the *base station*. "The BS MAC preferably uses information from the PHY regarding signal quality to determine to modulation required for a particular CPE and, therefore, the bandwidth that is available" (Column 14, lines 48-51).

Bourlas et al do not disclose that the at least one additional device is a *PNC* and that the device is a *DEV*.

Mandhyan et al disclose in Figure 2 that a base station 22 can be a piconet master and mobile CPE's 24 can be piconet slaves. Refer to Sections 0019-0024. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the at least one additional device is a *PNC* and that the device is a *DEV*. One would have been motivated to do so to utilize the Bluetooth protocol which can operate in a noisy environment, uses a fast acknowledgement and frequency hopping technique to form a robust link, and avoids interference. Refer to Section 0019.

Referring to claims 15, 28, 34, 49 and 63, Bourlas et al disclose in Figure 1 wherein the device is a *base station* (base station 106) and the at least one additional device is a *CPE* (CPE 110). The disclosed method can be executed by software in both the base stations and the CPE. Refer to Column 6, lines 26-33.

Bourlas et al do not disclose that the device is a *PNC* and that the at least one additional device is a *DEV*. Refer to the Mandhyan et al rejection part of claims 9 and 22.

Referring to claim 56, Bourlas et al disclose in Figure 1 wherein the communication device is a *base station* (base station 106) and the at least one additional device is a *CPE* (CPE 110). The disclosed method can be executed by software in both the base stations and the CPE. Refer to Column 6, lines 26-33.

Bourlas et al do not disclose that the communication device is a *DEV* and that the at least one additional device is a *DEV*. Refer to the Mandhyan et al rejection part of claims 9 and 22.

5. Claims 11, 24, 45 and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,771,660 to Bourlas et al in view of U.S. Patent No. 7,391,714 to Blasco Claret et al.

Bourlas et al do not disclose wherein a first operational parameter of the plurality of operational parameters that corresponds to the PHY link corresponds to a first TFC that directs the modulation of OFDM symbols of a signal transmitted across the PHY link; a second operational parameter of the plurality of operational parameters that corresponds to the PHY link corresponds to interference of the signal transmitted across the PHY link; the MAC processes the assessed information corresponding to the second operational parameter thereby monitoring the interference of the signal transmitted across the PHY link; based on a change in the interference of the signal transmitted across the PHY link, the MAC changes the first operational parameter from the first TFC to a second TFC; the second TFC is subsequently used to direct modulation of OFDM symbols of the signal transmitted across the PHY link.

Blasco Claret et al disclose a method to continuously calculate the SNR for each one of the carriers of the OFDM modulation so that different users can use different carriers in the same OFDM symbol. Interference affects the SNR of the system. Refer to Column 3, lines 55-63 and Column 6, lines 16-22. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include wherein a first operational parameter of the plurality of operational parameters that corresponds to the PHY link corresponds to a first TFC that directs the modulation of OFDM symbols of a signal transmitted across the PHY link; a second operational parameter of the plurality of operational parameters that corresponds to the PHY link corresponds to interference of the signal transmitted across the PHY link; the MAC processes the assessed information corresponding to the second operational parameter thereby monitoring the interference of the signal transmitted across the PHY link; based on a change in the interference of the signal transmitted across the PHY link, the MAC changes the first operational parameter from the first TFC to a second TFC; the second TFC is subsequently used to direct modulation of OFDM symbols of the signal transmitted across the PHY link. One would have been motivated to do so to adjust the modulation according to the interference to achieve the best signal reception.

6. Claims 12, 25, 46 and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,771,660 to Bourlas et al in view of U.S. Patent No. 7,330,433 to Shao et al.

Bourlas et al do not disclose wherein a first operational parameter of the plurality of operational parameters that corresponds to the PHY link corresponds to a distance

between the device and the at least one additional device; a second operational parameter of the plurality of operational parameters that corresponds to the PHY link corresponds to a first modulation used to modulate a signal transmitted across the PHY link; the MAC processes the assessed information corresponding to the second operational parameter thereby determining the distance between the device and the at least one additional device; based on a change in the distance between the device and the at least one additional device, the MAC changes the second operational parameter from the first modulation to a second modulation; and the second modulation is subsequently used to modulate the signal transmitted across the PHY link.

Shao et al disclose an adaptive modulation and coding scheme (AMC) that matches the modulation with channel conditions. A UE closer to the base station is assigned a higher order modulation with higher code rates. The modulation-order and/or code rate decreases as the distance between the UE and the base station increases. Refer to Column 1, lines 36-50. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include wherein a first operational parameter of the plurality of operational parameters that corresponds to the PHY link corresponds to a distance between the device and the at least one additional device; a second operational parameter of the plurality of operational parameters that corresponds to the PHY link corresponds to a first modulation used to modulate a signal transmitted across the PHY link; the MAC processes the assessed information corresponding to the second operational parameter thereby determining the distance between the device and the at least one additional device; based on a change

in the distance between the device and the at least one additional device, the MAC changes the second operational parameter from the first modulation to a second modulation; and the second modulation is subsequently used to modulate the signal transmitted across the PHY link. One would have been motivated to do so to adjust the modulation based on the distance between two devices to achieve the best signal reception.

7. Claims 13, 26, 32, 47 and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,771,660 to Bourlas et al in view of U.S. Patent No. 5,561,666 to Christensen et al.

Bourlas et al do not disclose wherein the MAC processes the assessed information corresponding to the plurality of operational parameters; the at least one additional device provides a registration request to the device when trying to register to the piconet; and based on the processed assessed information, the MAC determines whether to accept or deny the registration request of the at least one additional device.

Christensen et al disclose that a station wishing to enter the network generates and transmits a MAC registration request frame to ports. The ports that can support the station will respond with a positive registration response. Refer to Column 2, lines 16-27. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include wherein the MAC processes the assessed information corresponding to the plurality of operational parameters; the at least one additional device provides a registration request to the device when trying to register to the piconet; and based on the processed assessed information, the MAC determines

whether to accept or deny the registration request of the at least one additional device. One would have been motivated to do so to evaluate whether or not a device can join the piconet.

Response to Arguments

8. Applicant's arguments filed October 21, 2008 have been fully considered but they are not persuasive.

Referring to the argument that Bourlas et al do not disclose a piconet (page 27, lines 1-25): The limitation of a "piconet" is in the preamble of the independent claims 1, 16, 29, 35 and 50 and therefore no weight is given to it. Bourlas et al also disclose in Figure 1 that the system is implemented in a wireless environment. Refer to Column 2, lines 20-48.

Referring to the argument that in the system of Bourlas et al, the PHY layer is not coupled to the MAC layer (page 27, line 26 to page 31, line 29): Although Bourlas et al disclose in Figure 5 a TC layer 506 between the PHY layer 508 and the MAC layer 502/504, PHY layer 508 and MAC layer 502/504 are still "communicatively coupled" to one another since they can communication through TC layer 506. Independent claims 1, 16, 29, 35 and 50 claim that the MAC layer is "communicatively coupled" to the PHY layer, and not directly coupled, which allows the possibility that another layer is between the PHY and MAC layers. Bourlas et al disclose that MAC layer 502/504 can communicate with PHY layer 508 through the TC layer 506 by mapping MAC elements into PHY elements and PHY elements into MAC elements. Refer to Column 10, lines 39-45; and Column 13, line 62 to Column 16, line 38. Furthermore, Bourlas et al

disclose that the MAC uses information from the PHY regarding signal quality to determine the modulation required for a particular CPE. The BS LL-MAA uses this information to allocate bandwidth. Since the MAC needs to use information from the PHY regarding signal quality, the PHY must assess the information regarding signal quality and provide it to the MAC. Refer to Column 14, lines 40-54.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTINE NG whose telephone number is (571)272-3124. The examiner can normally be reached on M-F; 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ricky Ngo/
Supervisory Patent Examiner, Art Unit 2416

C. Ng
January 5, 2009